

REMARKS

Claims 1, 4-8, 10, 13-19, 22-28, 36, 38, 39, and 43-52 are pending in the application with new claims 47-52 added herein. Applicants previously amended claims 18, 38, and 43 in an after-final response to the August 14, 2002 Office Action and included a Declaration of Prior Invention. Applicants received a Advisory Action alleging that the Declaration did not place the application in condition for allowance, but not mentioning whether the amendment to claims 18, 38, and 43 was entered. Applicants assume that the amendment was entered in the absence of any statement by the Office to the contrary. In the event that the Office disagrees with this just stated assertion, Applicants hereby request entry of the previously filed amendment to claim 18, 38, and 43.

The Advisory Action states that the Declaration does not overcome Vassiliev (U. S. Patent No. 5,876,798) because the Declaration (including the evidence provided therewith) does not establish that the Applicants had possession of the claimed subject matter. Specifically, the Declaration allegedly does not describe deposition temperature, pressure, precursors, the ambient, and deposition rate. Applicants traverse and request reconsideration. ⁹

Page 4 of the previous August 14, 2002 Office Action describes a rejection of claims 45 and 46. The rejection alleges that Vassiliev discloses methods of forming insulating material or silicon oxide that include maintaining pressure in a reaction chamber of from about 10 to about 760 Torr and depositing the insulating material or silicon oxide with a plasma present in the reaction chamber. In a RCE Preliminary Amendment filed June 25, 2002, Applicants established that the only mention in Vassiliev of plasma use occurs in

column 6, lines 4-14 with reference to Fig. 2. However, Vassiliev does not provide any mention of the processing conditions used to produce the subject matter of Fig. 2 except to say that it was deposited using plasma enhanced CVD. Applicants acknowledge that the three embodiments of Vassiliev described in column 5 suggest 10-760 Torr may be acceptable, however, each of the three embodiments expressly does not include the use of plasma. In fact, column 6, lines 4-7 state that "plasma enhanced deposition must not be incorporated."

Accordingly, Applicants assert that Vassiliev does not disclose the claim 45 and 46 maintaining of pressure from about 400 to 760 Torr and depositing with a plasma present in the reaction chamber. The pressure ranges disclosed by Vassiliev are only applicable to non-plasma methods. Anticipation requires disclosure of each and every limitation of a claim. The most that can be said of Vassiliev is that it might suggest (not disclose) using the non-plasma pressure ranges in the plasma enhanced deposition method that produced Fig. 2. At least for such reasons, Vassiliev does not anticipate claims 45 and 46.

If the Office finds that claims 45 and 46 are nevertheless unpatentable over Vassiliev under 35 U.S.C. 103, then Applicants assert that the previously filed Declaration of Prior Invention establishes conception of the claim 45 and 46 inventions at a date prior to the effective date of Vassiliev. Applicants assertion is supported by MPEP 715.02 and the legal authority referenced therein. Applicants acknowledge pursuant to MPEP 715.02 that, in general, a declaration must establish possession of the whole invention claimed. However, MPEP 715.02 further states that "where the differences between the claimed invention and the disclosure of the reference(s) are so small as to render the claims

obvious over the reference(s), an affidavit or declaration under 35 CFR 1.131 is required to show no more than the reference shows." (Emphasis added.) Further, if a claim limitation is considered by the Office as an obvious feature or modification of the reference relied upon, without citation of a reference expressly teaching such feature or modification, then a 37 CFR 1.131 declaration can be sufficient to overcome the rejection "even if it does not show such feature or modification." (Id., emphasis added.)

In the present circumstances, the Declaration and accompanying evidence support al the limitations of claims 45 and 46 except for the pressure of 400 to 760 Torr. However, Vassiliev also does not disclose a plasma enhanced deposition method where pressure is maintained from 400 to 760 Torr. As established above, the most that can be said of Vassiliev is that it might suggest such pressure limitation. Since Vassiliev does not disclose the pressure range of claims 45 and 46, the Declaration is not required to support such limitation. Rather, the Declaration is merely required to support the subject matter of claims 45 and 46 that is disclosed by Vassiliev. Accordingly, the Declaration properly establishes conception of the claim 45 and 46 inventions prior to the effective date of Vassiliev. Applicants request withdrawal of the claim 45 and 46 rejection in the next Office Action and allowance of such claims.

The previous Office Action also finally rejected claims 1, 4-7, 10, 16-19, 36, 38, 39, 43, and 44 as being unpatentable over Vassiliev. Claim 1 sets forth a method of forming a fluorine doped insulating material that includes, among other features, providing a reaction chamber at a temperature from above 400 C to not greater than about 700 C, providing reactants within the reaction chamber and maintaining pressure from about 400 to about

760 Torr, and depositing an insulating material at a rate of from about 1000 to about 10,000 Angstroms per minute with a plasma present in the reaction chamber. The Advisory Action alleges that the Declaration does not support the temperature, pressure, and deposition rate limitations set forth in claim 1. However, Applicants assert that the Declaration is not required to support such limitations.

As established above, Vassiliev does not disclose the claimed pressure limitation. In addition, Applicants note that the 250-500 C temperature ranges described in column 5 of Vassiliev apply only to the three non-plasma embodiments. Vassiliev does not disclose that the plasma enhanced deposition method used to produce the material in Fig. 2 occurred at a temperature of 250-500 C. Rather, the most that can be said of Vassiliev is that it might suggest use of such temperature range in the method that produced Fig. 2. Accordingly, the Declaration is not required to support the temperature limitation.

In addition, page 5 of the previous Office Action does not allege that Vassiliev discloses the claimed deposition rate. Instead, the Office Action explanation appears merely to allege that the claimed deposition rate is an obvious modification of Vassiliev. Thus, the Declaration is also not required to support the deposition rate range. Claims 4-7, 10, 16, 17, and 36 depend from claim 1 and are either expressly supported by the Declaration or set forth subject matter that is not disclosed in Vassiliev. Accordingly, claims 4-7, 10, 16, 17, and 36 are patentable at least for such reason.

Claim 18 sets forth a method of forming a silicon oxide having Si-F bonds including, among other features, providing a reaction chamber at a temperature in excess of 400 C but less than 700 C, providing a reactant and a precursor in the reaction chamber and

maintaining a pressure of from about 400 to about 760 Torr, providing a plasma within the reaction chamber while providing the reactant and the precursor, and depositing silicon oxide at a rate of from about 1000 to about 10,000 Angstroms per minute. As may be appreciated from the discussion above regarding claim 1, the Declaration establishes conception of the claim 18 invention prior to the effective date of Vassiliev. The Advisory Action alleges that the Declaration does not support the temperature, pressure, and deposition rate limitations of claim 18. However, Applicants assert that the Declaration is not required to support such limitations. All other limitations of claim 18 are expressly supported by the Declaration. Claims 19, 38, 39, 43, and 44 depend from claim 18 and are either expressly supported by or are not required to be supported by the Declaration.

At least for the reasons described above, claims 1, 4-7, 10, 16-19, 36, 38, 39, 43, and 44 are patentable over Vassiliev. Applicants request allowance of such claims in the next Office Action.

In the previous Office Action, claim 8 was finally rejected as being unpatentable over Vassiliev and further in view of Homma. Page 8 of the Office Action acknowledges that Vassiliev does not disclose or suggest the subject matter of claim 8. At least for similar reasons described above with regard to claim 1, the Declaration is thus not required to support the subject matter of claim 8. The Declaration accordingly establishes conception of the invention of claim 8 prior to the effective date of Vassiliev. Homma considered alone is insufficient to disclose or suggest every element of claim 8. Applicants assert that claim 8 is patentable and request allowance of such claim in the next Office Action.

In the previous Office Action, claims 13-15 and 22-28 were finally rejected as being unpatentable over Vassiliev and further in view of Kirchhoff. Pages 8-9 of the Office Action acknowledge that Vassiliev does not disclose or suggest the subject matter of claims 13-15 and 22-28. Accordingly, the Declaration is not required to support the subject matter of such claims, even though for at least some of the claims, the Declaration supports such subject matter. The Declaration thus establishes conception of the invention of claims 13-15 and 22-28 prior to the effective date of Vassiliev.

New claims 47-52 are added herein and are supported by the present specification. Such support may be appreciated by comparing the subject matter of the new claims to the claims pending prior to the present amendment. In addition, claims 47 and 48 are supported by page 5, lines 5-8, as amended, and page 10, lines 13-14 of the present specification. Applicants further assert that the Declaration establishes conception of the inventions of claims 47-52 prior to the effective date of Vassiliev. Any pressure or deposition rate limitations of claims 47-52 not expressly supported by the Declaration are not required to be supported by the Declaration since Vassiliev does not disclose such limitations. With specific regard to claims 49-52, Vassiliev does not disclose or suggest the claimed deposition rate, whether for a deposition method using a plasma or not using a plasma. At least for the described reasons, claims 47-52 are patentable.


Although not needed to overcome the present rejections, and for the purpose of placing Applicants' objection on the record, Applicants hereby traverse the Response to Arguments on pages 9-10 of the previous Office Action. Specifically, Applicants assert that the Office has not and can not cite any controlling legal authority for the proposition that the

Applicant cannot "pick and choose" a temperature within an expressly disclosed range and still remain within the requirements of 35 U.S.C. 112, first paragraph. Instead, Applicants assert that the current controlling legal authority supports the Applicants' previously argued position on the matter. The ability to "pick and choose" a more narrow range within an expressly disclosed more broad temperature range is proper. Also, Applicants maintain the previous assertion that Vassiliev expressly teaches against use of plasma in ozone deposition of fluorinated silicon oxide.

At least for the reasons set forth above, claims 1, 4-8, 10, 13-19, 22-28, 36, 38, 39, and 43-52 are patentable and Applicants request allowance of such claims in the next Office Action.

Respectfully submitted,

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